

CITY OF AMERICAN CANYON

OVERVIEW

At the end of the 19th Century, the emergence of agriculture and cattle grazing at the southern end of Napa County led to the development of a small rural community, known originally as “Napa Junction.” The community’s original name reflected its relationship with the railroad system; the community served as a crossing for railroad lines traveling to and from Napa County. Over time, the community’s name was changed to American Canyon. Augustus Watson’s discovery in the early 1900s of clay and limestone underlaying portions of American Canyon led to the community’s first industrial enterprise, the Standard Portland Cement Company.

By the end of the 1950s, American Canyon had steadily grown to a population of approximately 1,000. In 1961, to meet the needs of this growing community, the American Canyon County Water District (ACCWD) was formed to provide wastewater and potable water services. The District initiated wastewater services in 1965 after completing construction on a sewage and collection system as well as purchasing the Rancho Del Mar Sanitary Corporation. That same year, District voters authorized the sale of \$370,000 in revenue bonds to facilitate the purchase of the California-Pacific Utilities Company – Napa Junction Water System (potable water purveyor for the affected area).¹

In 1966, in anticipation of purchasing the California-Pacific Utilities Company – Napa Junction Water System, ACCWD entered into a water supply agreement with the Napa County Flood Control and Water Conservation District (NCFCWCD). In addition to providing ACCWD with an annual entitlement through 2035 of water drawn from the State Water Project (SWP), the agreement was the first legal document delineating an exclusive service area for the District. The agreement defines the District’s service area as Soscol Creek to the north, Solano County to the east and south, and the Napa River to the west. Pursuant to this agreement, no other agency under contract with NCFCWCD is permitted to provide water service within the District’s service area. The District’s purchase of the utility company was finalized in 1967.

To secure access to its newfound water supply, ACCWD reached a 20-year water supply agreement with the City of Napa in 1967. The water supply agreement enabled the District to begin receiving its SWP entitlement through an interconnection with Napa’s distribution system. As a result, the District was able to begin accessing its SWP entitlement without having to construct its own treatment and transmission system connecting to the Napa Turnout Reservoir.² To facilitate delivery, the District turned over its SWP entitlement to Napa in exchange for an equivalent amount of water drawn

¹ Water supplied by the California-Pacific Utilities Company was generated from a water supply agreement with the City of Napa.

² The Napa Turnout Reservoir is a 7.0 million gallon storage reservoir that is operated by the California Department of Water Resources and connects to the North Bay Aqueduct.

from one of Napa's three water supplies: SWP, Lake Hennessey, and Milliken Reservoir. In exchange, the District paid Napa a calculated fee based on the amount of water delivered. In 1987, the agreement was extended for an additional 10 years before finally expiring in 1997.³

The addition of SWP water facilitated growth in American Canyon. From the early 1950s to early 1970s, American Canyon's population more than tripled to approximately 3,800. At the same time, however, the water distribution system purchased from California-Pacific Utilities Company proved inadequate to meet system demands. Specifically, the distribution system was undersized and had begun to deteriorate. As a result, the system began experiencing negative pressure and water losses. Moreover, the system was without storage facilities, leaving it vulnerable to water outages during peak demand periods. To finance a new water system, the District secured a \$2,050,000 low-interest loan from the California Department of Water Resources in 1973. A major component of the new water system included a water treatment plant located in Jameson Canyon next to the Napa Turnout Reservoir. Other key components of the new water system included new distribution and transmission systems, as well as a 2.0 million gallon storage tank on Oat Hill. Collectively, the new water system enabled the District to begin accessing its SWP entitlement without the assistance of Napa.

Following the completion of ACCWD's new water system in 1976, development within American Canyon continued to gain momentum. By 1981, American Canyon's population was estimated at 5,800. During this time, public support for incorporating American Canyon materialized, resulting in a ballot measure in November 1981. Although the 1981 ballot measure failed, cityhood was revisited and approved by voters in November 1991, allowing the community to incorporate as the City of American Canyon in 1992. As part of LAFCO's terms and conditions for incorporation, ACCWD was merged into the new City. To this end, all improvements, powers, rights, contracts, and duties of the District were turned over to the City.

In 1996, to protect against shortages of SWP water, and to ensure a steady supply during periods of peak demands, American Canyon entered into a water supply agreement with the City of Vallejo. The agreement entitles American Canyon to a maximum daily capacity of 1.0 million gallons of potable water, resulting in monthly and annual entitlement capacities of 57.14 acre-feet and 628.6 acre-feet respectively. In exchange, American Canyon paid Vallejo a 1.4 million dollar connection fee in addition to agreeing to pay monthly service and volume charges. American Canyon also agreed to be responsible for the cost associated with the construction of transmission and metering facilities necessary to connect the two cities' distribution systems. American Canyon is also credited with a nominal reduction in its monthly volume charge for each acre-foot of raw water drawn from its SWP entitlement and supplied to Vallejo. This water is treated and delivered back to American Canyon and subject to the same terms and conditions as water that is drawn from Vallejo's own potable water supply. Significantly, the agreement includes a provision enabling American Canyon to increase its maximum day capacity over the course of designated time periods. These time periods include specified

³ American Canyon maintains an informal agreement with Napa to purchase potable water.

capacity option increases available to American Canyon through five planning periods: 1996-2001; 2002-2006; 2007-2011; 2012-2016; and 2017-2021. Collectively, the time periods covering 2002 through 2021 provide American Canyon the option to increase its maximum daily entitlement capacity up to 5.1 million gallons (this includes the City's base capacity of 1.0 million gallons) for drought protection purposes.⁴ The agreement is in effect until mutually terminated.

In 1998, to help defray the costs incurred following its water supply agreement with the City of Vallejo, American Canyon entered into a water transfer agreement with the City of Calistoga. As part of a three-way agreement involving Vallejo, American Canyon agreed to permanently transfer 500 acre-feet of its annual SWP entitlement to Calistoga. In exchange, Calistoga paid American Canyon a one-time compensation fee of \$500,000 and reimbursed Vallejo \$114,000 for the construction costs associated with connecting American Canyon and Vallejo's distribution systems. Later that year, American Canyon recovered the sale of its SWP entitlement to Calistoga following an addendum to its 1996 water supply agreement with Vallejo. This addendum provides American Canyon with annual entitlement to 500 acre-feet of "permit water" drawn from Vallejo's water rights to Lindsey Slough (component of the Sacramento-San Joaquin Delta).

To further help defray the costs associated with its water supply agreement with Vallejo, American Canyon reached a water transfer agreement with the Town of Yountville in 2000. This agreement provides for the permanent transfer of 250 acre-feet of American Canyon's SWP entitlement to Yountville in exchange for cash compensation and rights to future pipeline capacity to the North Bay Aqueduct. The agreement, however, does not become effective until specified conditions are satisfied, including the certification of adequate CEQA documents. To this end, an interim agreement was reached allowing Yountville to annually receive 250 acre-feet until the permanent agreement becomes effective. Analogous to its agreement with Calistoga, American Canyon maintains an addendum to its water supply agreement with Vallejo to purchase an equivalent amount of permit water from Vallejo in the event Yountville exercises its right to purchase water from the City.⁵

American Canyon's water supply was augmented once again in 2000 following its participation in a water transfer agreement between NCFWCWD and the Kern County Water Agency (KCWA). Negotiated on behalf of the five cities in Napa County, the agreement specified the terms and conditions for NCFWCWD to permanently purchase

⁴ The agreement includes a provision that American Canyon's decision not to purchase additional capacity within an applicable time period relieves Vallejo from having to reserve such capacity for the City. American Canyon's decision not to purchase the additional capacity reserved during the 1996-2001 time period relieves Vallejo from having to reserve 1.15 million gallons of the 6.25 million gallons of maximum daily capacity originally offered to the City. As a result, the maximum daily capacity available to American Canyon over the next four time periods in which Vallejo is obligated to reserve is 5.1 million gallons. This amount equates to monthly and annual entitlement capacities of 291.414 and 3,205.86 acre-feet.

⁵ As of March 2003, Yountville has not required the use of the interim agreement, but remains available for drought protection.

4,025 acre-feet of annual SWP entitlement from KCWA. As a participant, American Canyon's share of the Kern County water transfer is 500 acre-feet.

In 2002, American Canyon authorized an outside consultant to conduct an update of its *Water Master Plan (1996)*. The update includes a review of the existing water system and recommendations on immediate and long-term capital improvements. Specifically, the update recommends a two-phase capital improvement program addressing current and future system requirements. The first phase, covering current system requirements through 2006, recommends several pipeline replacement projects as well increasing the City's water treatment and storage capacities. Most notably, the first phase proposes that the City more than triple the current day treatment capacity at the American Canyon WTP from 2.6 to 8.6 million gallons. Other recommended improvements include constructing a 2.6 million gallon storage tank on the northeast side of the City and a 2.0 million gallon storage tank to serve the La Vigne subdivision. The second phase, covering system needs from 2006 through build-out⁶, proposes additional pipeline replacement projects and a second 2.6 million gallon storage tank in the northeast side of the City. In all, the update proposes a total of 18 capital improvement projects at an estimated cost of \$18,060,000. Of this amount, approximately 8.5 million dollars is planned for the expansion of the American Canyon WTP.

In addition to offering potable water service, American Canyon intends to alleviate potable water demands within its service area by providing reclaimed water to current potable water customers. The City's plans for reclamation were originally developed in 1997 as part of its *Wastewater Treatment and Reclamation Project Report*. In 2002, after several years of sending wastewater to the Napa Sanitation District, the City completed construction on a new wastewater treatment plant. The treatment capacity of the plant is 2.57 million gallons a day and is equipped with filtering and treatment facilities necessary to produce tertiary water (unrestricted recycled water). The City's reclamation program is scheduled to be implemented in phases, beginning with "Phase One." Phase One is slated to begin at the end of 2003 with services being provided to Green Island Vineyards followed by Hess Collection Wineries. Phase One will also include extending reclamation services to American Canyon Community Park, Donaldson Way School, and Napa Junction School. "Phase Two" will continue the expansion of reclaimed water service to current potable water customers within the City's service area, including agricultural users, schools, and public parks. Phase Two is scheduled to be completed by the end of 2006. American Canyon anticipates implementation of both phases resulting in the annual savings of over 1,000 acre-feet of potable water; potable water conserved by reclamation will then be available and added to the City's potable water supply.

⁶ American Canyon estimates its build-out population at 18,000.

GOVERNANCE

American Canyon was incorporated in 1992 as a general-law city. The City's governing body is comprised of a five-member city council. The City Council appoints from its ranks a mayor and vice-mayor for one-year terms. Councilmembers serve staggered four-year terms and are elected by general vote. A city manager is appointed to oversee and implement policies on behalf of American Canyon's governing body and to provide administration of the City's five departments: administration, community services, finance, planning, and public works. In 1994, the City Council adopted the City's first general plan. The general plan outlines land use and development policies for the City through 2010. Currently, American Canyon's City Council meetings are conducted on the first and third Thursday of each month at the City's Recreation Center. Meetings are open to the public.

OPERATIONS

American Canyon's water system is maintained and operated by the City's Public Works Department, Water Service Division. Typically, a public works director is appointed by the city manager whose duties include overseeing and managing American Canyon's water system division. However, due to the recent departure of its public works director, American Canyon has entered into a one-year contract with Coastland Civil Engineering, Inc. to oversee the public works department. The water division is comprised of three sections: treatment, distribution, and billing & collections. As of February 2003, the division consisted of 14 employees.

ADOPTED BOUNDARIES

American Canyon's incorporated boundary is comprised of two non-contiguous areas consisting of 2,672 acres. Pursuant to its water supply agreement with NCFCWCD, American Canyon's service area is defined as Soscol Creek to the north, Solano County to the east and south, and the Napa River to the west. As part of this agreement, no other agency under contract with NCFCWCD is permitted to provide water service within this area. Land use designations for American Canyon are defined in the City's General Plan.

American Canyon – Adopted Boundaries	
Incorporated Boundary:	2,672 acres *
Sphere of Influence Boundary:	2,691 acres *

- * Figures are approximations calculated using information generated by LAFCO and the County of Napa's geographic information systems.

WATER SUPPLY

American Canyon's water supply is based on contracted entitlements drawn from two outside sources: the SWP and the City of Vallejo. The City's water supply drawn from the SWP is secured through a 1966 agreement between ACCWD and NCFCWCD. The original agreement provided the City (as successor agency to ACCWD) with an annual entitlement of SWP water through 2035. This agreement also established a maximum annual entitlement of 5,200 acre-feet, made available through gradual increases over the first 23 years. Although American Canyon's maximum annual entitlement remains at 5,200 acre-feet, there have been two ensuing water transfer agreements amending the City's entitlement schedule.

The first amendment to American Canyon's SWP entitlement occurred in 1998 following a water transfer agreement with the City of Calistoga. As part of a three-way agreement involving the City of Vallejo, American Canyon permanently transferred 500 acre-feet of its annual SWP entitlement to Calistoga. In addition to paying American Canyon a one-time compensation fee of \$500,000, Calistoga assumed all responsibilities of the entitlement, including payment to NCFCWCD. Calistoga was also required to reimburse Vallejo \$114,000 for the construction of facilities connecting American Canyon's distribution system to Vallejo's distribution system. This interconnection provides American Canyon the ability to purchase potable water from Vallejo under the terms and conditions of an earlier agreement (discussed below). The second amendment to American Canyon's SWP entitlement occurred in 2000 following its participation in a water transfer agreement between NCFCWCD and the Kern County Water Agency (KCWA). Negotiated on behalf of the five cities in Napa County, the agreement specified the terms and conditions for NCFCWCD to permanently purchase 4,025 acre-feet of annual SWP entitlement from KCWA. The City's share of the Kern County water transfer is 500 acre-feet.

As noted, the portion of American Canyon's water supply drawn from Vallejo is secured through a 1996 water supply agreement. This agreement entitles American Canyon to a maximum daily capacity of 1.0 million gallons, resulting in monthly and annual capacities of 57.14 and 628.6 acre-feet respectively. The agreement also enables American Canyon to purchase additional maximum day capacity from Vallejo over the course of five designated time periods: 1996-2001; 2002-2006; 2007-20011; 2012-2016; and 2017-2021. For each designated planning period, Vallejo agrees to make available a specified amount of additional capacity for purchase by American Canyon. The total amount of maximum daily capacity available to American Canyon over the next four planning periods in which Vallejo is obligated to reserve is 5.1 million gallons (this amount includes the City's base capacity of 1.0 million gallons). This amount equates to monthly and annual entitlement capacities of 291.414 and 3,205.86 acre-feet. Any increase to the base daily entitlement of 1.0 million gallons, however, requires American Canyon to pay additional connection fees.⁷

⁷ As part of the 1996 water supply agreement, American Canyon paid Vallejo a \$1,428,571 connection fee for a maximum daily entitlement capacity of 1.0 million gallons.

Beginning in 1996, American Canyon and Vallejo executed several addendums to this water supply agreement to secure additional water supplies. Most notably, a 2000 addendum provides American Canyon with an annual entitlement to 500 acre-feet of “permit water” drawn from Vallejo’s water rights to Lindsey Slough. This water is delivered to American Canyon through the North Bay Aqueduct and allows the City to recover an equivalent amount of water previously transferred to the City of Calistoga. In addition, American Canyon maintains a separate addendum allowing it to purchase up to 500 acre-feet of raw water annually from Vallejo during water emergencies for agricultural, landscaping or golf course uses. The 1996 agreement, along with the aforementioned addendums, are in effect until mutually terminated.

American Canyon – Available Water Supply (acre-feet)			
Year	State Water Project*	City of Vallejo**	Permit Water***
2003	4,500	628.6	500
2004	4,600	628.6	500
2005	4,700	628.6	500
2006	4,750	628.6	500
2007	4,800	628.6	500
2008	4,850	628.6	500

* American Canyon’s SWP entitlements are scheduled to gradually increase each year through 2015 at which time the City shall reach its maximum entitlement of 5,200 acre-feet. Entitlements continue thereafter until 2035.

** American Canyon’s agreement with the City of Vallejo for potable water restricts delivery to 1.0 million gallons per day, resulting in monthly and annual entitlement capacities of 57.14 and 628.6 acre-feet respectively. Treated water delivered to American Canyon from Vallejo is generally generated from Lake Berryessa (Napa County), Lake Frey, Lake Madigan (Solano County), or the State Water Project.

*** American Canyon’s agreement with the City of Vallejo is for permit water generated from Lindsey Slough that is delivered to the City through the North Bay Aqueduct.

WATER DEMAND

In 2002, American Canyon delivered approximately 922,948,800 million gallons (2,832 acre-feet) of potable water, resulting in a daily average of 2,528,627 gallons. The City’s maximum day water demand was 4.75 million gallons. The City currently provides water service to approximately 3,722 connections within its service area. Of this amount, 157 connections are located outside of the City.

American Canyon – 2002 Water Demand	
Annual Water Demand:	922,948,800 gallons
Average Daily Water Demand:	2,528,627 gallons

Maximum Day Water Demand:	4.75 million gallons
Water Connections:	3,722 **
Population Served:	12,283 **

* Title 22 of the California Code of Regulations requires that sufficient water be available from the water sources and distribution reservoirs to adequately and dependably meet the requirements of all users under maximum demand conditions (§64562).

** Calculated in accordance with Title 22 of the California Code of Regulations, Government Code §64412.2

Projected water demands for American Canyon were identified in its *Water System Master Plan (2003)*. The plan projected water demands for American Canyon under two planning periods: 2006 and buildout. Demands were determined by applying established water use factors (average gallons used per day) for each customer type according to land use projections for lands within its urban limit line and the airport industrial area.

American Canyon – Projected Water Demands (acre-feet)		
Year	Average Day Demand	Annual Demand
2006	12.82 *	4,679.30
Buildout	17.05 **	6,223.25

* Based on an average daily demand of 4.176 million gallons.

** Based on an average daily demand of 5.555 million gallons.

WATER TREATMENT FACILITIES

American Canyon provides treatment of raw water drawn from the SWP and “permit water” from Vallejo at the American Canyon Water Treatment Plant (WTP). Both water sources are generated from the Sacramento-San Joaquin Delta and are conveyed and temporarily stored at the Napa Turnout Reservoir by the North Bay Aqueduct. The American Canyon WTP was constructed in 1976 and is located next to the Napa Turnout Reservoir in Jameson Canyon (State Highway 12). The treatment process begins once raw water is released from the Napa Turnout Reservoir and gravity fed through a 12-inch transmission line to the American Canyon WTP. Alum and polymer (coagulants) are added as raw water passes through a rapid mix chamber before entering into two flocculation basins. While in the flocculation basins, the raw water is gently mixed to facilitate the coagulation of unwanted particles. Raw water is conveyed into sedimentation basins allowing solids in the water to settle and separate from the treatment process. Two gravity filters remove solids before chlorine (disinfectant) is added as water is detained in an 118,600 gallon clearwell tank. The clearwell tank completes the treatment process by allowing the treated water to complete its necessary contact time with the chlorine prior to entering the distribution system. Finished water remains in the

clearwell tank until storage levels within the City's distribution system require recharge. The American Canyon WTP has a treatment capacity of 1,805 gallons per minute, resulting in a daily treatment capacity of 2.6 million gallons.⁸

American Canyon Water Treatment Plant	
Water Source:	State Water Project City of Vallejo - "Permit Water"
Treatment Capacity:	1,805 gallons per minute; or 2.6 million gallons per day
Clearwell Storage Capacity:	118,600 gallons

DISTRIBUTION SYSTEM AND STORAGE FACILITIES

American Canyon's water distribution system receives and distributes potable water generated from American Canyon WTP and the City of Vallejo. American Canyon's distribution system consists of a network of 10-inch to 20-inch water lines that serve the City as well unincorporated lands that extend as far north as Soscol Creek. The distribution system overlays five pressure zones and is served (recharge and system pressure) by three treated water storage tanks.

Zone 1 serves as American Canyon's primary pressure zone and includes the majority of service connections. Potable water is supplied to Zone 1 by a 2.5 million gallon storage tank located next to the American Canyon WTP. The 2.0 million gallon Oat Hill Tank No. 1 maintains pressure for Zone 1 and provides system recharge during peak demand periods. Zone 1 also includes a subzone (Zone 1A), which receives water generated from Zone 1 through two pressure reducing stations.

American Canyon's remaining four pressure zones serve specific service areas within the distribution system. Zone 2 serves a 44-acre industrial park connection that is located to the west of State Highway 29 in the Hess Drive area. A booster pump station is required to lift potable water from Zone 1 to the 200,000 gallon Oat Hill Tank No. 2, which serves Zone 2. Zone 3 serves four residential connections off of Jameson Canyon Road near the American Canyon WTP. Booster pumps at the American Canyon WTP's clearwell tank are required to lift potable water to a 4,000 gallon storage tank, which serves Zone 3. Zone 4 consists of 63 residential units in the Montevino section of American Canyon's southern border and is served by interconnection with Vallejo's distribution system. This area is located in between Broadway and Flosden Avenues. Zone 5 consists of 173 residential units in the La Vigne subdivision in southeast American Canyon and is served by booster pumps that draw water from Zone 1. In addition, an interconnection with Vallejo provides supplemental fire flow to the subdivision. This area is located east of Flosden Road and north of the Solano County line.

⁸ American Canyon is scheduled to upgrade the American Canyon WTP's capacity to 5.6 million gallons a day in 2004.

American Canyon's distribution system operates on a supply and demand basis and responds to storage levels within Zone 1's Oat Hill Tank No. 1. When storage levels within Zone 1 require recharge, potable water is released into the distribution system from the 2.5 million gallon storage tank. Constructed in 2002, the 2.5 million gallon storage tank is supplied by the clearwell tank at the American Canyon WTP. As water enters the main distribution system, water levels within Oat Hill Tank No. 1 are recharged.

American Canyon – Distribution Storage Capacity	
American Canyon WTP Tank:	2.5 million gallons
Oat Hill Tank No. 1:	2.0 million gallons
Oat Hill Tank No. 2:	200,000 gallons
“Kirkland” Tank:	4,000 gallons
TOTAL	4,704,000 million gallons *

- * Total does not include storage capacity at American Canyon WTP's clearwell tank (118,600 gallons).

RATE SCHEDULE

American Canyon's water customers are charged a monthly usage fee for water service. The usage fee is divided between outside and inside city customers as well as five primary customer classes: single-family residential, multi-family residential, commercial, large industrial, and landscape. The usage charge is based on the volume of water delivered and is measured in units of 100 cubic feet (hcf). In addition, the City charges a monthly availability fee to non-single-family residential and landscape customers.

American Canyon – Rate Schedule	
Water Usage Fee: Single-Family Residential Inside City: Outside City:	\$2.50 per hcf \$3.50 per hcf
Water Usage Fee: Multi-Family Residential Inside/Outside City:	\$2.30 per hcf
Water Usage Fee: Commercial Inside City: Outside City:	\$2.30 per hcf \$3.25 per hcf
Water Usage Fee: Large Industrial Inside/Outside City:	\$1.80 per hcf
Water Usage Fee: Landscape Inside City: Outside City:	\$2.50 per hcf \$3.50 per hcf
Water Availability Fees Inside Commercial: Outside Commercial: Large Industrial:	\$11.00 \$15.00 \$25.00

Multi-Family Residential:	\$11.00
Water Service Connection Fees	
Single-Family Residential:	\$4,211
Non-Single Family Residential:	TBD by City Engineer

Note: a hundred cubic feet (hcf) is equivalent to 748 gallons.

FINANCIAL

American Canyon's Water Operation and Capital Improvements Fund has an approved operating budget for 2003 of \$8,785,100. The fund includes expenditures for utility billing, operations, distribution, and capital improvement projects. Primary expenses include water purchases (SWP and Vallejo), salaries and benefits, debt payments, and maintenance and operations. The City's anticipated revenue for 2003 is \$8,634,300. Main revenue sources include water sales, interest earnings, and meter installation fees. As of June 2002, the City's Water Operation and Capital Improvement Fund's unreserved cash balance was \$9,744,000.

WRITTEN DETERMINATIONS

In anticipation of reviewing and updating American Canyon's sphere of influence, and based on the above-mentioned information, the following written determinations are intended to fulfill the requirements of Government Code §56430. When warranted, some determinations include supplemental information listed in italics to provide context to the underlying service factor. A review of American Canyon's sphere of influence will be included as part of another service review currently in progress.

Infrastructure Needs or Deficiencies:

1. Through its contractual agreements, the City of American Canyon imports an adequate supply of water to meet existing and future system demands under normal conditions within the timeframe of this study.
2. The City of American Canyon should continue to pursue opportunities to increase its available water supply and continue to expand its water conservation efforts. These actions will help to ensure an adequate water supply during periods of below normal and dry year conditions.
3. The City of American Canyon's water supply is dependent on contracted entitlements with the Napa County Flood Control and Water Conservation District and the City of Vallejo. These contractual entitlements are essential to American Canyon's ability to deliver potable water to its customers.

4. To account for the realities of water entitlements, the City of American Canyon should continue to objectively differentiate between entitlements and actual deliveries in their water supply analysis. This is especially important to ensure an adequate supply of water during extended drought periods when deliveries are restricted.
5. In 2003, the Department of Water Resources issued the *State Water Project Delivery Reliability Report*. The report provides an assessment of SWP deliveries using historical precipitation rates along with projected land and water use demands through 2021, including delivery estimates during drought periods. This report is a valuable tool for all SWP contractors and should be incorporated into American Canyon's water supply planning efforts.
6. The City of American Canyon has made reasonable efforts to secure additional water supplies to meet existing and projected potable water demands within its service area. This demonstrates a continued effort by American Canyon to address system needs and deficiencies in a timely manner.

Recent examples include American Canyon's 1996 potable water supply agreement with the City of Vallejo and its participation in Napa County Flood Control and Water Conservation District's 2000 water transfer agreement with the Kern County Water Agency. In addition, American Canyon has continually benefited from augmenting its contracted water supply with carryover and interruptible water supplies generated by the Department of Water Resources.

7. The City of American Canyon has made reasonable efforts to maintain adequate reserves for drought protection.

American Canyon's 1996 agreement with the City of Vallejo enables the City to increase its annual draw of potable water entitlements from Vallejo over designated time periods through 2021. In addition, American Canyon is in the process of negotiating a long-term water supply agreement with the City of St. Helena to purchase an additional 1,000 acre-feet of entitlement from the State Water Project.

8. The City of American Canyon requires improvements to its water treatment plant to independently meet maximum day water demands.

American Canyon's maximum day water demand in 2002 was 4.75 million gallons, while its treatment plant's daily capacity is 2.6 million gallons. In 2003, American Canyon is scheduled to begin the first of two capital improvement projects aimed at expanding capacity at its water treatment plant. Collectively, these projects will increase the plant's daily treatment capacity to 8.6 million gallons. These planned improvements will enable American Canyon to independently meet projected maximum day water

demands of 8.36 million gallons in 2006 without severely taxing stored reserves.

9. The City of American Canyon requires improvements to its treated water storage facilities to independently meet future maximum day water demands and ensure adequate reserves during an emergency or interruption in service.

American Canyon's maximum day water demand in 2002 was 4.75 million gallons, while its total treated water storage capacity is 4.7 million gallons. In 2003, American Canyon is scheduled to begin construction on a new 2.0 million gallon treated water storage tank to serve the La Vigne subdivision. American Canyon also plans to construct two 2.6 million gallon treated water storage tanks on the hills northeast of the intersection Highway 29 and American Canyon Road within the next five years. Collectively, these projects will increase American Canyon's available treated water storage capacity to 11.9 million gallons and provide greater balance to the City's distribution system. These planned improvements will enable American Canyon to independently meet its projected required storage capacity of 9.1 million gallons in 2006.

10. The City of American Canyon is scheduled to begin providing reclaimed water service to existing potable water customers by the end of 2003. The use of reclaimed water within American Canyon's service area is an important component in its water conservation efforts and should alleviate future potable water demands, especially among agricultural and irrigation customers.

American Canyon's reclamation program is planned to be implemented in two phases and will consist of tertiary recycled water; treated and distributed by its new wastewater treatment plant. Aggregately, American Canyon anticipates implementation of both phases resulting in the annual savings of over 1,000 acre-feet of potable water; potable water conserved by reclamation will then be available and added to the City's potable water supply.

11. Reclamation is a beneficial and efficient use of existing water resources and will provide credence to the City of American Canyon's water conservation efforts.
12. Evaluation of the City of American Canyon's reclamation program and its actual impact on potable water demands should be included in future studies.

Growth and Population Projections:

1. The City of American Canyon evaluates its water service capacities using reasonable demand projections detailed in its *Water System Master Plan (2003)*.

2. The calculation formula codified in Title 22 of the California Code of Regulations, Government Code §64412.2, is an appropriate method in estimating the total population served by the City of American Canyon's water service system. The population served by American Canyon's water system based on this calculation method is 12,283.

Financing Constraints and Opportunities:

1. The City of American Canyon is scheduled to begin providing reclaimed water service to existing potable water customers by the end of 2003. Reclamation will offer agricultural, industrial, and irrigation customers a suitable water source at an alternative rate, while reducing the draw upon the overall supply of potable water.
2. The City of American Canyon's contracted water supply is subject to rate changes imposed by the supplier (exporter), resulting in potential increases in costs to the City. Similarly, American Canyon's ability to supplement its contracted water supply in dry years through water supply programs facilitated by the Department of Water Resources and/or open market purchases are also liable to increase costs. Typically, these increases in operation costs are passed on directly to the customer through rate increases. The extent of these costs and impact on the rates paid by customers, however, remain difficult to measure due to the uncertainty involving water markets.

Cost Avoidance Opportunities:

1. Through outside agreements, the City of American Canyon has successfully mitigated costs associated with its water service operations.

An example includes American Canyon's 1998 agreement with the City of Calistoga. This agreement helped American Canyon share in the cost associated with connecting to the City of Vallejo's water distribution system, while maintaining its overall objective of securing additional water supplies. A similar agreement was reached with the Town of Yountville in 2000.

2. The City of American Canyon is a member of Napa County Flood Control and Water Conservation District's technical advisory committee, known as "Wartac." This group provides NCFWCWD with a consensus among the five cities and County as it relates to current and future water issues affecting Napa County. This advisory group provides American Canyon the opportunity to share costs with other participating agencies on projects of mutual interest and facilitates the exchange of service information.
3. The City of American Canyon is a funding participant in Napa County Flood Control and Water Conservation District's "2050 Study." The study's objective is to identify current and projected water demands within each participating agency's service area as well as document agricultural demands in unincorporated

areas served by groundwater. This study will also examine the feasibility of pursuing cooperative water supply projects aimed at meeting countywide demands through 2050. American Canyon will benefit from the study and should continually explore collaborative opportunities aimed at identifying new and improved water supplies.

Opportunities for Rate Restructuring:

1. The City of American Canyon could minimize future rate increases by lessening the demand for potable water within its service area by investing in infrastructure improvements that reduce its dependency on potable water withdrawals from the City of Vallejo.

American Canyon is currently charged \$2.38 per hundred cubic foot (748 gallons) by Vallejo. Comparatively, American Canyon is charged \$19.86 per acre-foot (325,900 gallons) by the Department of Water Resource (note: this charge does not take into account cost of treating SWP water or annual transportation charges).

2. The City of American Canyon's water rates were last increased in 2000 and are competitive with the rates offered by the other four cities in Napa County.

Opportunities for Shared Facilities:

1. As a subcontractor to Napa County Flood Control and Water Conservation District, the City of American Canyon is responsible for assuming its proportional costs for the delivery of water drawn from the State Water Project. Subcontractors are also responsible for paying a transportation charge that covers the cost associated with the infrastructure and facilities needed to capture and convey water to Napa County. These shared facilities include the North Bay Aqueduct and the Napa Turnout Reservoir. Costs relating to future upgrades and improvements to this conveyance system will be shared among each subcontractor as well as the Solano County Water Agency and its subcontractors.

Improvements to the North Bay Aqueduct are needed to increase its available capacity to equal the amount of entitlements contracted by the Napa County Flood Control and Water Conservation District (NCFCWD). NCFCWD is currently working with the Solano County Water Agency to implement improvements to the North Bay Aqueduct to meet both agencies contracted entitlement amount. A key factor to this planned improvement is the completion of the original design of the North Bay Aqueduct and to satisfy the increase in State Water Project entitlements generated from NCFCWD's agreement with the Kern County Water Agency.

Government Structure Options:

1. The City of American Canyon is the only public agency currently providing water service within its jurisdictional boundary. There are two other public agencies empowered to provide water service whose jurisdictions overlap that of American Canyon: the Napa County Flood Control and Water Conservation District and Napa County Resource Conservation District. Both of these agencies have elected not to offer water service, and have expressed no intentions of doing so in the foreseeable future.
2. Extension of the City of American Canyon's water service operations should be limited to parcels lying within its jurisdictional and sphere of influence boundary. Extension of water service by contract or agreement to parcels outside these adopted boundaries must be approved by the Commission and based on specific findings pursuant to Government Code §56133.

Evaluation of Management Efficiencies:

1. Each year, the City of American Canyon provides a summary of past and projected revenues and expenditures stemming from its water service operations as part of its annual budget. The budget is adopted following a noticed finance committee session in which members of the public are allowed to comment and offer suggestions with respect to expenditures relating to water service. In addition to enhancing the accountability of elected and appointed officials, the budget process provides a clear directive towards staff with respect to prioritizing city resources.
2. In 2003, the City of American Canyon prepared an update to its water system master plan. The plan recommended approximately 18 million dollars in short and long-term capital improvement projects aimed at maintaining and improving American Canyon's water system through buildout; adoption of the plan is scheduled for consideration by the City Council in August. This demonstrates a reasonable effort on behalf of American Canyon's management staff to address and update water quality and services objectives in a timely and efficient manner.
3. Over the past two years, the City of American Canyon has had two public works directors. The most recent director left American Canyon in July, necessitating the appointment of a third director within this time period. Rather than appoint a permanent director, American Canyon has entered into a one-year contract with Coastland Civil Engineering, Inc., a Santa Rosa based consulting firm to perform the duties of public works director. Turnover within this position creates continuity challenges among staff and impacts the ability of management to gain sustained expertise regarding local service conditions.
4. The City of American Canyon has sufficient capital reserves to finance necessary upgrades and improvements to its water system.

Local Accountability and Governance:

1. The City of American Canyon's City Council meetings are conducted twice a month and are open to the public. Public inquires involving water service operations can be addressed to the Council at this time. Regularly scheduled council meetings provide an opportunity for American Canyon's constituents to ask questions of their elected representatives, while helping to ensure that service information is being effectively communicated to the public.
2. The City of American Canyon makes reasonable efforts to maintain public dialogue with its constituents regarding its water service operations. These efforts facilitate local accountability and contribute towards public involvement in local governance.

These efforts include conducting public workshops, mailing newsletters, news inserts with billing statements, and posting its annual "water quality report" on American Canyon's website. Customers can also visit or call American Canyon's utility billing division during regular business hours to discuss questions regarding their monthly water bill. Designated public works employees are also on call 24 hours a day to respond to water service related emergencies.

3. The City of American Canyon provides water service to approximately 157 connections outside of its jurisdictional boundary. These connections are located throughout American Canyon's water service area which encompasses lands north to Soscol Creek, south and east to Solano County, and west to the Napa River. American Canyon has made reasonable efforts to include current and projected water demands for these outside lands as part of its water supply analysis.
4. The City of American Canyon's administration and water service operations are maintained and managed by a responsive and professional staff. These characteristics enhance accountability and cultivate desirable working relationships with members of the public as well as other agencies.